The Strong Isometric Dimension Problem: Part II

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Abstract

This talk will be a continuation of the seminar given on August 28. In that presentation we defined many of the relevant terms in the study of the strong isometric dimension including isometric subgraph and the strong product. We also defined the strong isometric dimension of a connected graph, and showed that this invariant is well-defined.

In this talk we will present the result of Fitzpatrick and Nowakowski that bounds the strong isometric dimension of a tree with m leaves between $\lceil \log_2 m \rceil$ and twice that number. We have been trying to prove that the lower bound is actually the exact value. When G is a graph of diameter 2 (each nonadjacent pair of vertices is distance 2 apart), the computation of the strong isometric dimension can be formulated differently. This gives rise to interesting combinatorial problems.

This talk concerns joint work with Drago Bokal, Janja Jerebic, and Iztok Peterin.